

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev

Contract No. & Work Identifier:	CN12-EN01	Client Contract No.:	10/13	Date:	5/07/2018
Contract Title:	Bindoon Bypass				
To:	Mark Jefferies				
Copies:	John Braid; Norm Fox				
From:	Lisa Boulden				
Subject:	Great Northern Highway Muchea to Wubin Upgrade – Stage 2: Bindoon Bypass (Assessment Number 2135) – Request for Change to Proposal				

1. Background

Main Roads Western Australia (Main Roads) referred the Bindoon Bypass to the EPA under Section 38 of the *Environmental Protection Act 1986* (EP Act) on 1 September 2017. The proposal as referred by Main Roads is to construct and operate the Bindoon Bypass, which is a new 48-kilometre (km) section of Great Northern Highway (GNH) within the Shires of Chittering and Gingin. The new section of road will bypass the town of Bindoon, and ultimately consist of a combination of four lane dual carriageway, four lane single carriageway and two lane single carriageway. The Bindoon Bypass will divert from the existing GNH at the Chittering Roadhouse, run west of Bindoon turning to the east near Wannamal, and re-join GNH between Hay Flat Road and Calingiri Road.

The EPA endorsed the Environmental Scoping Document (ESD) for the above proposal at its meeting on 16 November 2017. The ESD specified the scope and content of the Environmental Review Document (ERD) and also defined the development envelope around the proposed road alignment. The development envelope approach provides some flexibility to allow minor changes to the proposal design, or to avoid or minimise impacts. The endorsed ESD included the following text: “*The EPA expects that the ERD will include consideration of all alternative route alignment options.*”

As a result of baseline environmental surveys and stakeholder consultation conducted after September 2017, alternative alignments have been identified at six locations along the proposed Bindoon Bypass, which result in the alignment now being outside of the referred development envelope and one which results in a reduced development envelope. These revisions to the alignment have generally received greater landowner support than the initial alignment, and in some cases have resulted directly from landowner requests. This consultation process has demonstrated a positive project outcome with improved landowner agreement for the proposed Bindoon Bypass.

Main Roads has adopted these alignment changes to take forward into land acquisition and detailed design. As these alternative alignments are outside the development envelope, as referred and endorsed in the ESD, Main Roads is requesting to change the proposal under Section 43A of the EP Act by amending the development envelope to include the revised road alignments.

Figure 1 shows the current Development Envelope that was submitted with the referral and an overview of the revised road alignment. As noted above, there are six locations where the revised alignment now extends beyond the development envelope:

- Southern Chittering realignment
- Teatree Road
- Wannamal wetland
- Calingiri Road
- Local road to address loss of access to M1465 and M1364 Cullalla Rd, Mooliabeenee.

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev 1

- Local road to address loss of access to Lot 37 Crest Hill Road, Mooliabeenee.

These are the subject of this Section 43A submission. The revised Development Envelope is shown on **Figure 2**.

A seventh proposed amendment to the development envelope is a reduction arising from greater design assurance in the vicinity of Lot M1465 Cullalla Rd, Mooliabeenee. Further reductions to the overall extent of the development envelope will be made during preparation of the Environmental Review Document.

2. Description of the Change

In most cases, the rationale for change is as a result of affected landowner and other stakeholder input. Concerns with the initial alignment were expressed regarding a variety of matters that include:

- The alignment severs land parcels such that large portions of properties become difficult to access, potentially impacting the value of the properties and/or economic viability of farming enterprises.
- Close proximity of the initial alignment to landowner residences, where realignment could substantially increase separation distance and improve amenity.
- Realignment offers more consolidated land parcels with a better outcome for future management.
- Landowner request for positioning of local roads.

In other cases, baseline environmental surveys have identified constraints within the development envelope. The revised alignments proposed have been able to reduce environmental impacts in selected areas, allowing the design to be optimised for beneficial environmental outcomes.

The proposed changes to the alignment, and therefore the development envelope, does not result in increased environmental impacts at any of the specified locations or for the Bindoon Bypass as a whole. Indeed, it is considered the proposed changes are likely to have a reduced environmental impact compared to the initial alignment. The following sections provide further details on the requested changes, while the change to the Development Footprint and Development Envelope is summarised in **Table 1**.

Table 1 : Variation to the Development Footprint

Project Design	Original Proposed Action (ha)	Revised Areas (ha)
Disturbance Footprint	650 ha	625 ha
Development Envelope	3,422 ha	3,407 ha

2.1 Southern Chittering Realignment

2.1.1 Description and Rationale

The original alignment referred to the EPA required a series of curves along the proposed alignment in order to minimise native vegetation clearing, and resulted in severance of Lot 9010 (owned by Odelon Pty Ltd). The zoning of this property is rural residential, and the resulting severance was likely to have negative impacts on the future development potential of the property.

The revised alignment (**Figure 3**) results in improved road geometry and road safety by providing a longer straight, as well as allowing a shorter interchange structure at the southern tie-in. It also avoids impacting two properties additional properties (Lot 61 and Lot 62 Great Northern Highway, Chittering).

 MUCHEA TO WUBIN	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev

2.1.2 Environmental Significance

Figure 3 shows that the original alignment traverses through land with more consolidated remnant vegetation blocks, and a greater concentration of Black Cockatoo known nesting trees and potential breeding trees.

The original alignment would result in the clearing of one known nesting tree and four trees with hollows suitable for use by Black Cockatoos. The revised alignment avoids clearing of all known nesting trees, but will result in the clearing of two trees with hollows suitable for use by Black Cockatoos (**Table 2**).

Overall, the revised alignment is considered to have a lower environmental impact than the alignment that was originally referred for this location.

Table 2 : Change in Impacts – Southern Chittering Realignment

Aspect	Original Proposed Action	Requested Change
Black Cockatoo Trees	1 hollow with evidence of use	0 hollows with evidence of use
	4 hollows suitable for use	2 hollows suitable for use

2.2 Teatree Road

2.2.1 Description and Rationale

Current Main Roads road safety standards require that secondary roads that cross highways do so with a "staggered T" treatment. The current alignment design implements this staggered T at Teatree Road by moving the western intersection to the southern boundary of Lot 1 Teatree Road, Bindoon. This avoided severance of the property, undesirable impacts to the wetland on the eastern side of the Bindoon Bypass and a known occurrence of the Banksia Orange Yellow Sands Priority Ecological Community (PEC) (also considered representative of the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC)) on the western side.

Conversations with the landowner following the initial design period found that moving the intersection to the north and approximately midway through the property represented a better outcome for the landowner, and would link in with future development plans for the property (**Figure 4**). The location of the intersection was selected to avoid areas of significant cut or fill, indicated by the white and red boxes on **Figure 4**, which would result in an unsafe intersection due to limited sight distance for vehicles at the intersection waiting to enter the highway. The revised location for the western Teatree Road intersection is at a neutral point between cut and fill, resulting in good sight distances for traffic entering the highway.

2.2.2 Environmental Significance

Lot 1 Teatree Road, Bindoon is mostly cleared. The proposed alignment for Teatree Road avoids a patch of "Very Good" condition Marri-Jarrah woodland and avoids all trees with hollows used by or suitable for Black Cockatoos (**Figure 4**). No Threatened or Priority flora have been recorded from this area and none of the vegetation has been identified as representative of a TEC or PEC. The original alignment for Teatree Road also traversed mostly cleared paddock, avoiding all trees with hollows used by or suitable for Black Cockatoos. There is no change in impacts for this location.

2.3 Wannamal Wetland

2.3.1 Description and Rationale

Main Roads is proposing to change the proposed crossing point of the Brockman River in order to reduce environmental and social impacts. The proposed alignment submitted with the referral had the Bindoon Bypass

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev 1

crossing the Brockman River at its narrowest point. This resulted in large cut and fill requirements, both in terms of length and height/depth, and a bridge height of approximately 13 m. This alignment also passed close to an occupied house (Lot 1 Bindoon-Moora Road, Wannamal) which would be isolated from the remainder of the property. The property would also be severed into two main portions, increasing the complexity of accessing the various portions of the property and ability to farm it as a single entity. The change to the proposed crossing point of the Brockman River is a result of consultations with affected landowners, which identified a number of concerns with the original alignment. A Multi Criteria Analysis (MCA) was undertaken to examine several alternative alignments (**Figure 5**):

- White option - current alignment;
- Yellow option;
- Red option;
- Green option; and
- Blue option – proposed alignment.

The MCA considered a range of social, environmental, engineering, constructability and economic factors, scoring each option against these factors to determine the best performing option. The result of the MCA was that the Blue option was the best performing of the five options considered. This option is generally supported by the affected landowners.

The Blue option traverses lower ground through cleared farmland. It will not require the same extent of cut and fill as the White option and requires a much lower bridge across the Brockman River. As a result, the Blue option has a lower construction cost. The Blue option also reduces severance impacts to Lot 1 Bindoon-Moora Road, Wannamal and reduces amenity impacts (noise and visual) when compared to the White option.

The Blue option together with the White option were presented to Robert Huston (District Nature Conservation Program Coordinator - Perth Hills District, Department of Biodiversity, Conservation and Attractions (DBCA)) who did not have any concerns with the alignment of the Blue option or impacts on that portion of the wetland. He did note that DBCA would require any crossing be designed and constructed to avoid changes to water flows and retention times, which could increase salinity upstream of the crossing. Design requirements for the crossing will result in a structure that can comply with these requirements.

2.3.2 Environmental Significance

The wetland comprises a combination of Multiple Use (MU), Resource Enhancement (RE) and Conservation Category (CC) portions (**Figure 6**). The proposed alignment and development envelope as submitted with the referral was developed on the basis of minimising disturbance to the portion of wetland mapped as CC, although no site-specific survey had yet been done to quantify the environmental values of the wetland. **Table 3** details the change in impacts between the original proposal and the requested change for this area.

Ecological surveys undertaken in 2017 shows that the vegetation condition at the crossing point is mostly Degraded - Completely Degraded (D-CD) (**Figure 7**). It comprises cleared, summer grazing paddock with a fringe of retained paperbark (*Melaleuca* sp.) remaining along the western margin. The current vegetation condition rating and land use (active grazing) appears at odds to the CC classification of this portion of the wetland.

A meeting was held with Robert Huston (District Nature Conservation Program Coordinator - Perth Hills District, DBCA) on 14 February 2018 to discuss the relative environmental impacts of the Blue and White options, particularly in regard to wetland impacts. The feedback from DBCA was that the current condition of the area, limited amount of native vegetation present, private land tenure and current use of the area for grazing did not appear to justify the CC listing, and the area was not considered to be as significant as initially thought based on

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev

the wetland classification mapping alone. The main concern raised by DBCA was potential increases in salinity should the crossing result in increased retention time of water upstream (i.e. damming of stream flows).

Consultation with the Chittering Landcare Centre was undertaken during the MCA process. They did not raise any major concerns with any of the options presented, and scored the Blue option as the most preferred of the five options. During discussions it was revealed that the owner of Lot 1 Bindoon-Moora Road had cleared and burnt the wetland in the 1980's to promote the growth of summer pasture (R. Hindmarsh, *pers. comm.*).

The Blue option results in lower impacts to visual amenity and noise at the residence on Lot 1 Bindoon-Moora Road, Wannamal when compared to the White option. The Blue option requires significantly less cut and fill, has a lower bridge/causeway structure and is approximately 900 m further from the residence.

Hydrological impacts are expected to be similar between the two options as the bridge design parameters require no more than a 100 mm increase in the water level upstream of the bridge during a 1 in 100-year annual recurrence interval event over the current flood level.

Table 3 : Change in Impacts – Wannamal Wetland Crossing

Aspect	Original Proposal	Requested Change
Native Vegetation – Clearing	2.25 ha	1.05 ha
Native Vegetation – Quality	Degraded Vegetation = 2.0 ha	Degraded Vegetation = 0.85 ha
	Degraded – Good Vegetation = 0.25 ha	Good Vegetation = 0.2 ha
Fauna – Black Cockatoo Trees	1 hollow with evidence of use	0 hollows with evidence of use
	8 hollows suitable for use	6 hollows suitable for use*
Wetlands	CC wetland = 0.25 ha	CC wetland = 1.33 ha
	MU wetland = 1.0 ha	MU wetland = 0 ha

* additional survey is required to confirm if isolated trees in the paddock contain hollows used by or suitable for use by Black Cockatoos.

2.4 Calingiri Road

2.4.1 Description and Rationale

The current northern extent of the Development Envelope terminates at the GNH/Calingiri road intersection. Since the submittal of the referral, there has been a minor northern extension of the design. This change was made in order to better consolidate highway planning to a more logical boundary (the point where the Bindoon Bypass re-joins the existing GNH). Other benefits are:

- avoiding duplication of engagement and land acquisition processes with affected owners, in particular the owners of Lot 3246 Great Northern Highway, Wannamal; and
- relocation of a truck stopping bay to a location with less environmental impact.

Figure 9 shows the upgraded highway to the west of the existing GNH re-joining at a point approximately 1.6 kilometres north of the Calingiri road intersection. **Figure 9** shows the alignment extending beyond the current Development Envelope; this is to allow connection to the future upgrade of the Calingiri section of the GNH. This section is currently in early planning phases and works in this area will be subject to a separate environmental assessment and approval process.

Including this small extension to the Development Envelope into this stage of the project allows for the relocation of a truck stopping bay to an area with lower environmental impact and better safety outcomes. The current design results in the existing truck stopping bay (located on the eastern side of the highway

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev

approximately 250 metres south of the Calingiri Road intersection) being partially located on a curve. Sight distances for traffic entering GNH from the stopping bay and for traffic traveling north on GNH are limited and non-compliant with the safety requirements for the upgraded GNH. The existing truck stopping bay is also not of an appropriate size for the expected level of future use. In order for the existing truck stopping bay to meet safety and capacity requirements, it would need to be extended north. This in turn would adversely impact two known nesting hollows for Black Cockatoos and a hollow suitable for use by the species along with the surrounding native vegetation. The alternative location for the truck stopping bay (**Figure 10**) is along a straight section of GNH, in a cleared area and does not impact any cockatoo nesting trees.

2.4.2 Environmental Significance

Figure 9 and **Figure 10** show that the proposed alignment and truck stopping bay are largely located in cleared paddock to the west of the existing road. There is very little clearing of native vegetation required within the extension of the development envelope with initial estimates putting vegetation clearing at under 0.2 hectares. This clearing is additional to that originally predicted.

No Threatened or Priority flora or TECs have been recorded from this area. One nesting hollow for Black Cockatoos has been recorded within the current road reserve. This tree will not be impacted by the proposed works. In comparison, upgrading the existing truck stopping bay requires the removal of two trees with hollows used by Black Cockatoos.

2.5 Local road to address loss of access to M1465 and M1364 Cullalla Rd, Mooliabeenee

2.5.1 Description and Rationale

Main Roads has a requirement to provide safe access to all properties impacted by road construction, including any severed portions. The proposed Bindoon Bypass will result in the severing of Lots M1465 and M1364 Cullalla Road, Mooliabeenee and loss of access to the eastern portions of these properties (**Figure 11**). To reinstate access to these properties a new access road is proposed from Barn Road, through Lot 1 Barn Road, Mooliabeenee and using an existing local road reserve (**Figure 12**). It is anticipated that detailed design will be able to avoid impacts to any significant trees for this access road.

2.5.2 Environmental Significance

Based on the concept design, up to six trees may need to be cleared for the access road. If any of these trees are identified to contain hollows used by or suitable for Black Cockatoos, the alignment will be revised during detailed design to avoid the need to clear these trees.

2.6 Local road to address loss of access to Lot 37 Crest Hill Road, Mooliabeenee

2.6.1 Description and Rationale

The current design for the local access road to the severed portion of Lot 37 Crest Hill Road, Mooliabeenee has the road situated along the boundary with the adjacent Bindoon Rifle Range. Main Roads has recently become aware that this location may bring the road into conflict with the 'danger zone template' of the rifle range. If the 'danger zone template' is impacted by the public road, it may not be acceptable for the maintenance of the safe operation of the rifle range and has the potential to impact ongoing use of the range for this purpose. Accordingly, Main Roads is reviewing options that consider the needs of the rifle range, including potentially changing the location of the local access road, introduction of safety gates, and signage on the local road for periods of rifle range operation. The change to the development envelope at this location allows for relocation of all or part of the proposed local road to facilitate a workable solution with consultation and input from all affected parties (**Figure 13**).

	Great Northern Highway - Muchea to Wubin Upgrade - Stage 2		
	Memorandum (MEM)		
	Doc No.	GNH-CN12-EN01-LET-0001	Rev

2.6.2 Environmental Significance

The proposed change to the development envelope encompasses largely cleared paddock with isolated mature trees. These trees will be surveyed to identify if they contain hollows used by or suitable for use by Black Cockatoos. Any change to the location of the local access road will be designed to avoid these trees. No additional impacts are anticipated as a result of this change.

3. Summary and Conclusions

As a result of baseline environmental surveys and stakeholder consultation undertaken following referral of the Bindoon Bypass to the EPA, Main Roads is proposing to alter the alignment in six locations. The revised alignment requires changes to the Development Envelope that was submitted as part of the referral. The new Development Envelope is shown on **Figure 2** and detailed in **Table 1**.

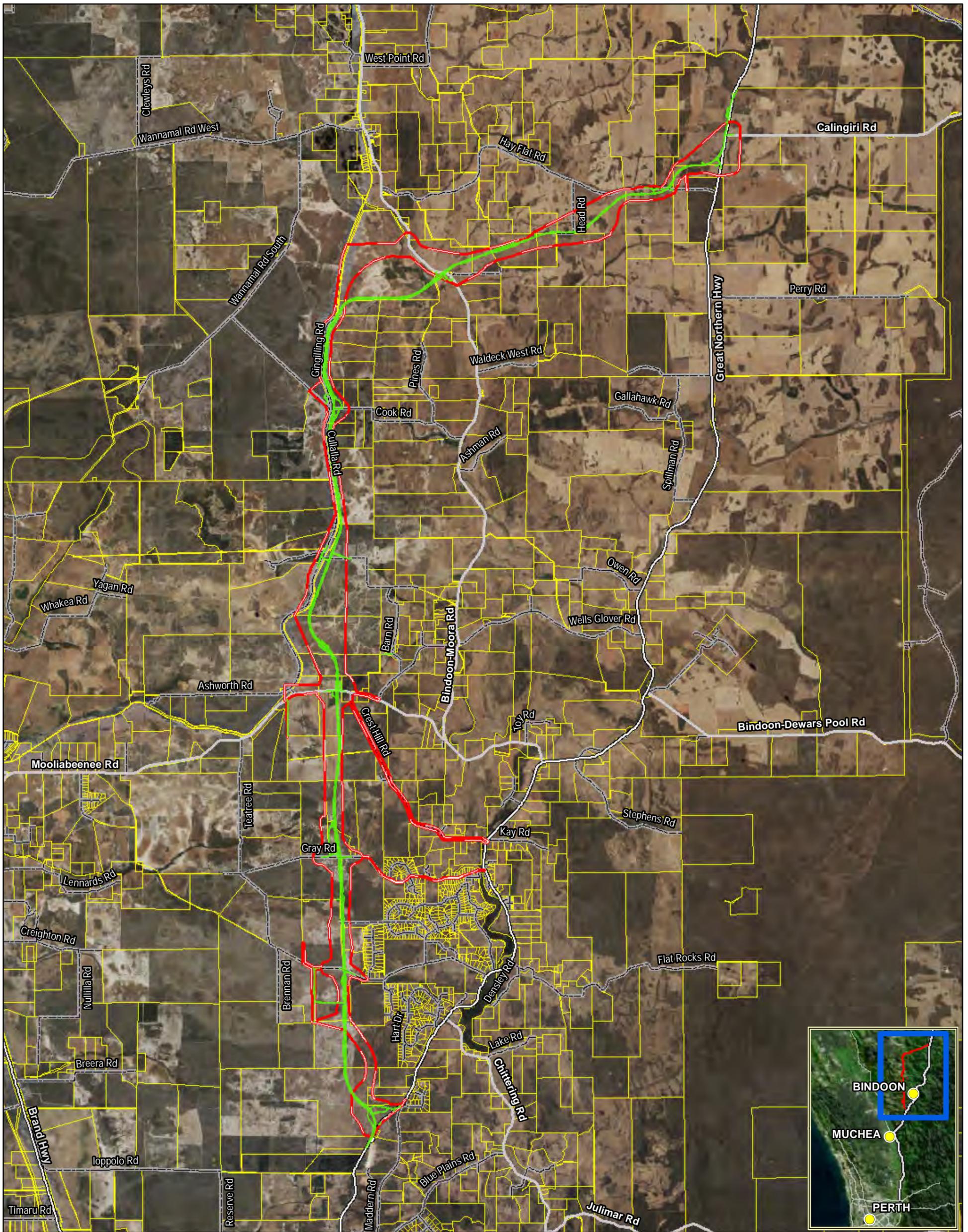
No additional significant impacts are anticipated due to the requested changes. An additional 0.2 ha of vegetation clearing will be required due to the extension of the Development Envelope at Calingiri Road, however this is counterbalanced by a 0.2 ha reduction in clearing due to the change in alignment at the Wannamal wetland area. Clearing within the defined boundary of CC wetlands will increase by approximately 1.1 ha, however the vegetation present within this wetland is mostly degraded to completely degraded as shown by **Figure 7** and **Figure 8**.

Impacts to Black Cockatoo habitat trees will be reduced in the areas of the revised alignments with the proposal avoiding clearing four trees with hollows suitable for and four trees with hollows showing evidence of use by Black Cockatoos. Additional survey of isolated trees within paddock areas is required to confirm these impacts, though it is expected that any new hollows recorded can be avoided during the detailed design phase.

4. Contacts

Should you require any additional information in relation to this change request, the contacts for the proposal are:

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- John Braid** - Principal Environmental Advisor - Main Roads WA
 Email: john.braid@mainroads.wa.gov.au
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Legend

- Referred Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- Highway
- Major Road
- Minor Road

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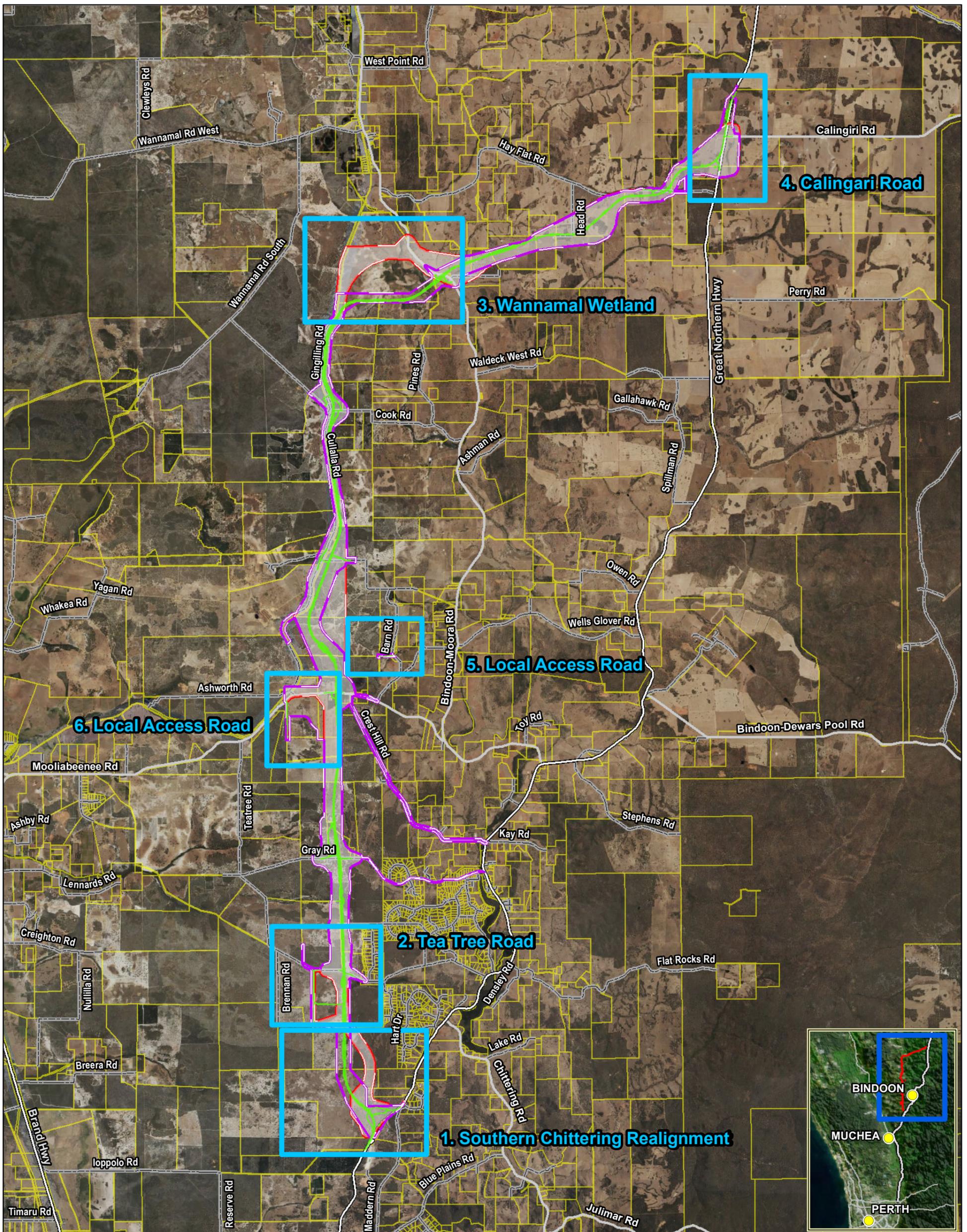
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Great Northern Highway Bindoon Bypass

Current Development Envelope and Revised Alignment
 Figure: 1 of 13
 Drawing No: **GNH-CN12-E-GD-EA-00105** Issue: **C**
 Task No: **Bindoon Approval** Drawing Status / Other: **Current as of 29/06/2018**
 Date: 29/06/2018 By: BG Chkd: LB Appd: TJ

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Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- Highway
- Major Road
- Minor Road

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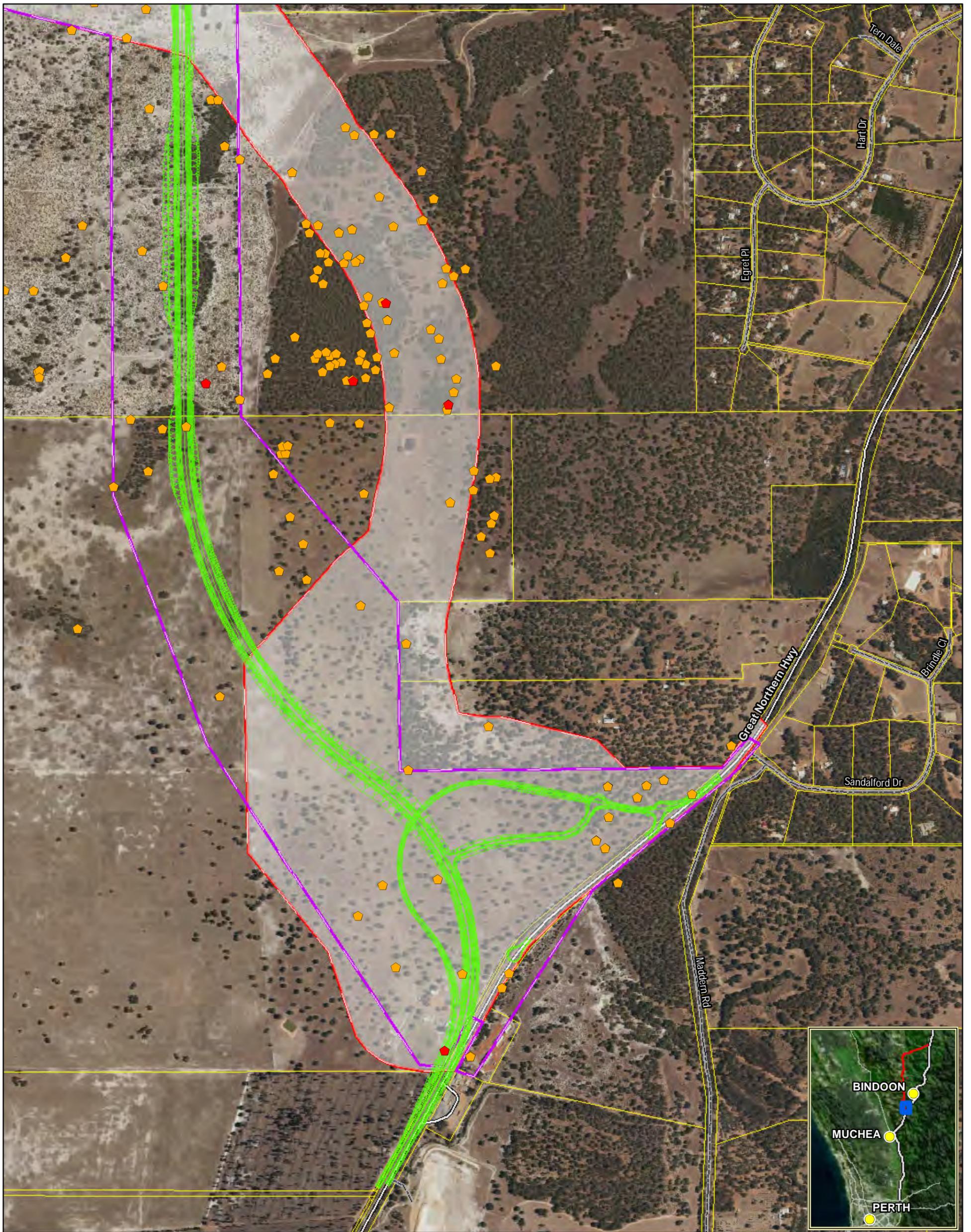
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Bindoon Bypass

Revised Development Envelope
 Figure: 2 of 13

Drawing No GNH-CN12-E-GD-EA-00105		Issue C	
Task No Bindoon Approval		Drawing Status / Other Current as of 4/07/2018	
Date 4/07/2018	By BG	Chkd LB	Appd TJ

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Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow
- Highway
- Minor Road

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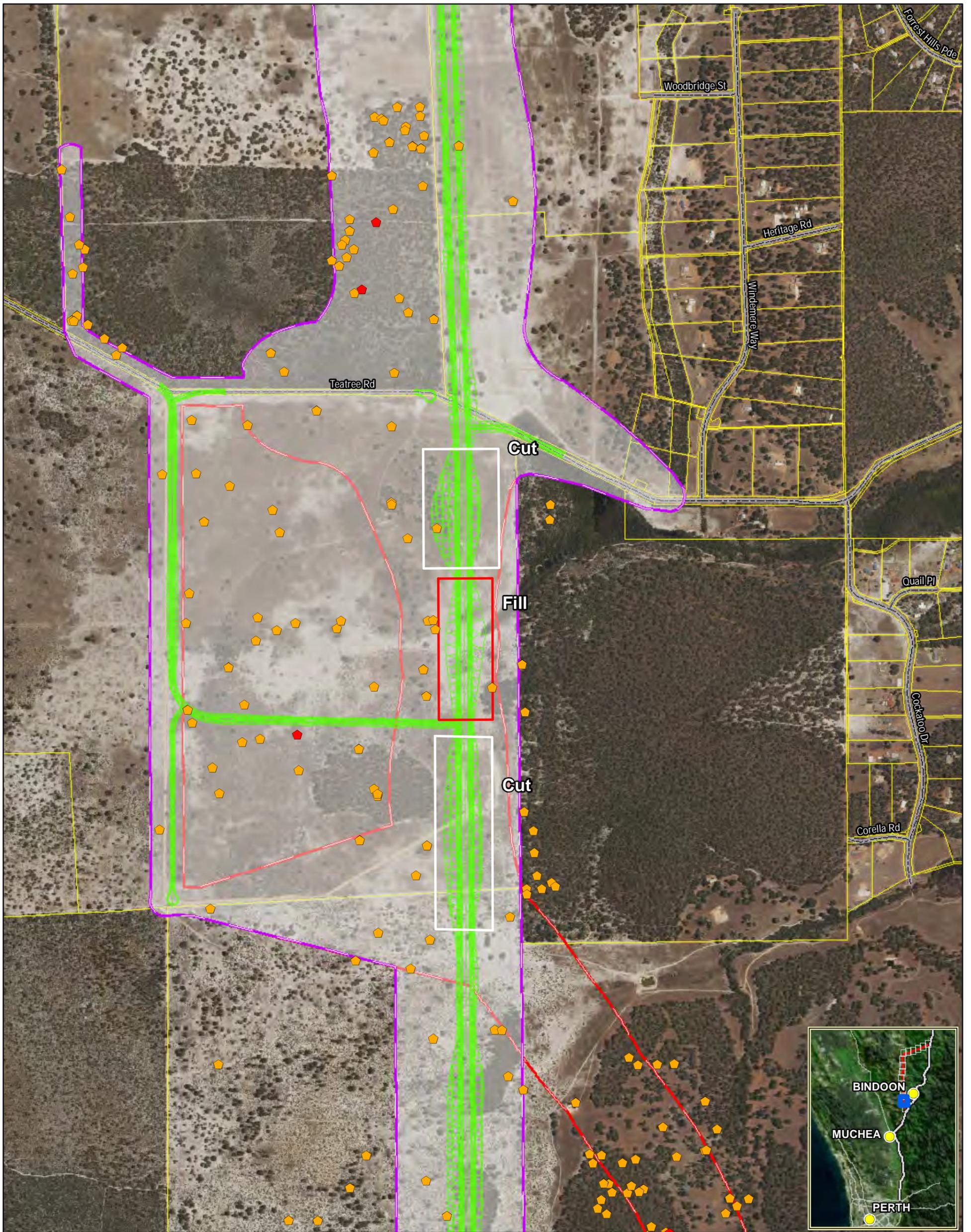
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 Project

Great Northern Highway Bindoon Bypass

Southern Chittering Realignment
 Figure: 3 of 13

Drawing No GNH-CN12-E-GD-EA-00105	Issue B		
Task No Bindoon Approval	Drawing Status / Other Current as of 29/06/2018		
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Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow
- Minor Road

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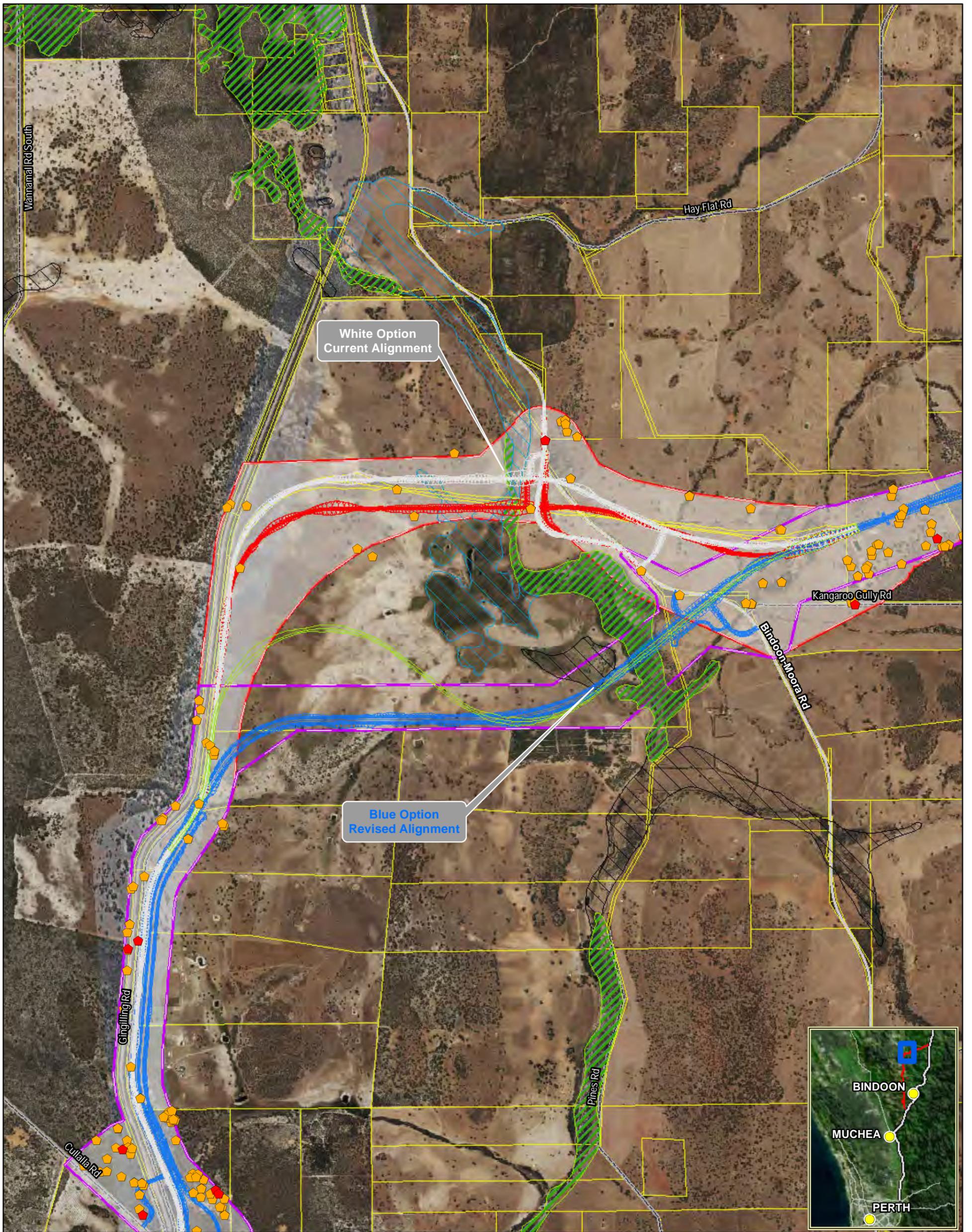
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Great Northern Highway Bindoon Bypass

Teatree Road

Figure: 4 of 13

Drawing No GNH-CN12-E-GD-EA-00105	Issue C
Task No Bindoon Approval	Drawing Status / Other Current as of 29/06/2018
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Legend

MCA Options

- Green Option
- Red Option
- Yellow Option

Current Alignment

- White Option

Revised Alignment

- Blue Option
- Referred Development Envelope
- Revised Development Envelope

CBC Habitat Trees

- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow

Wetlands

- Conservation
- Multiple Use
- Resource Enhancement
- Cadastral Boundary
- Major Road
- Minor Road



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Great Northern Highway
Bindoon Bypass

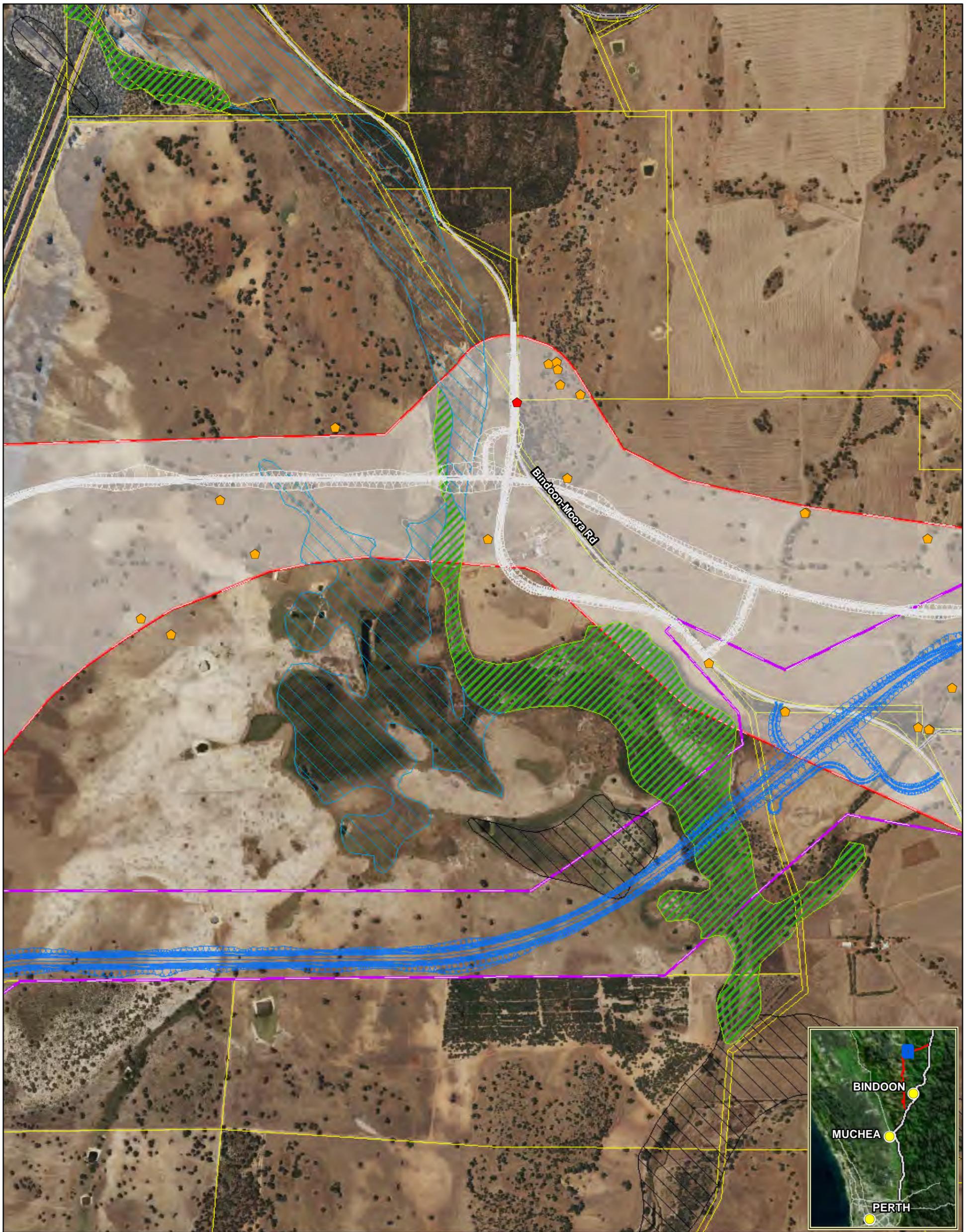
Wannamal Wetland Alignment
Options for MCA

Figure: 5 of 13

Drawing No: GNH-CN12-E-GD-EA-00105 Issue: C

Task No: Bindoon Approval Drawing Status / Other: Current as of 29/06/2018

Date	By	Chkd	Appd
29/06/2018	BG	LB	TJ



Legend

Current Alignment

White Option

Revised Alignment

Blue Option

Referred Development Envelope

Revised Development Envelope

CBC Habitat Trees

Hollow with Evidence of Use

Suitable Hollow

Wetlands

Conservation

Multiple Use

Resource Enhancement

Major Road

Minor Road

Cadastral Boundary



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Great Northern Highway
Bindoon Bypass

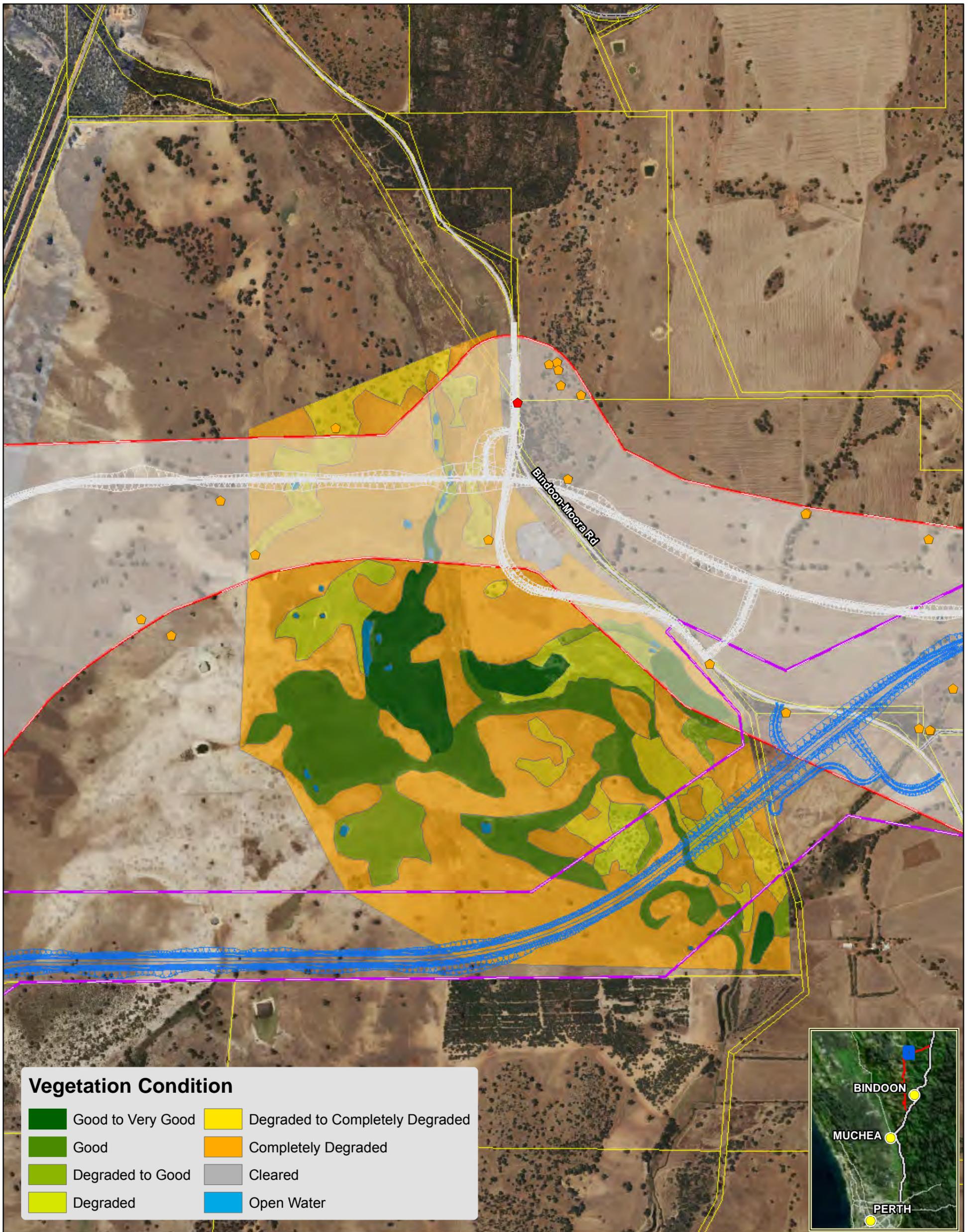
Wannamal Wetland Crossing

Figure: 6 of 13

Drawing No: GNH-CN12-E-GD-EA-00105 Issue: C

Task No: Bindoon Approval Drawing Status / Other: Current as of 29/06/2018

Date	By	Chkd	Appd
29/06/2018	BG	LB	TJ



Vegetation Condition

	Good to Very Good		Degraded to Completely Degraded
	Good		Completely Degraded
	Degraded to Good		Cleared
	Degraded		Open Water

Legend

Current Alignment

White Option

Revised Alignment

Blue Option

Referred Development Envelope

Revised Development Envelope

CBC Habitat Trees

Hollow with Evidence of Use

Suitable Hollow

Cadastral Boundary

Major Road

Minor Road



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0 150 300
Metres
Scale at A3
1:12,500
Coordinate System: GDA 1994 MGA Zone 50



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Great Northern Highway
Bindoon Bypass

Wannamal Wetland
– Vegetation Condition

Figure: 7 of 13

Drawing No
GNH-CN12-E-GD-EA-00105

Issue
C

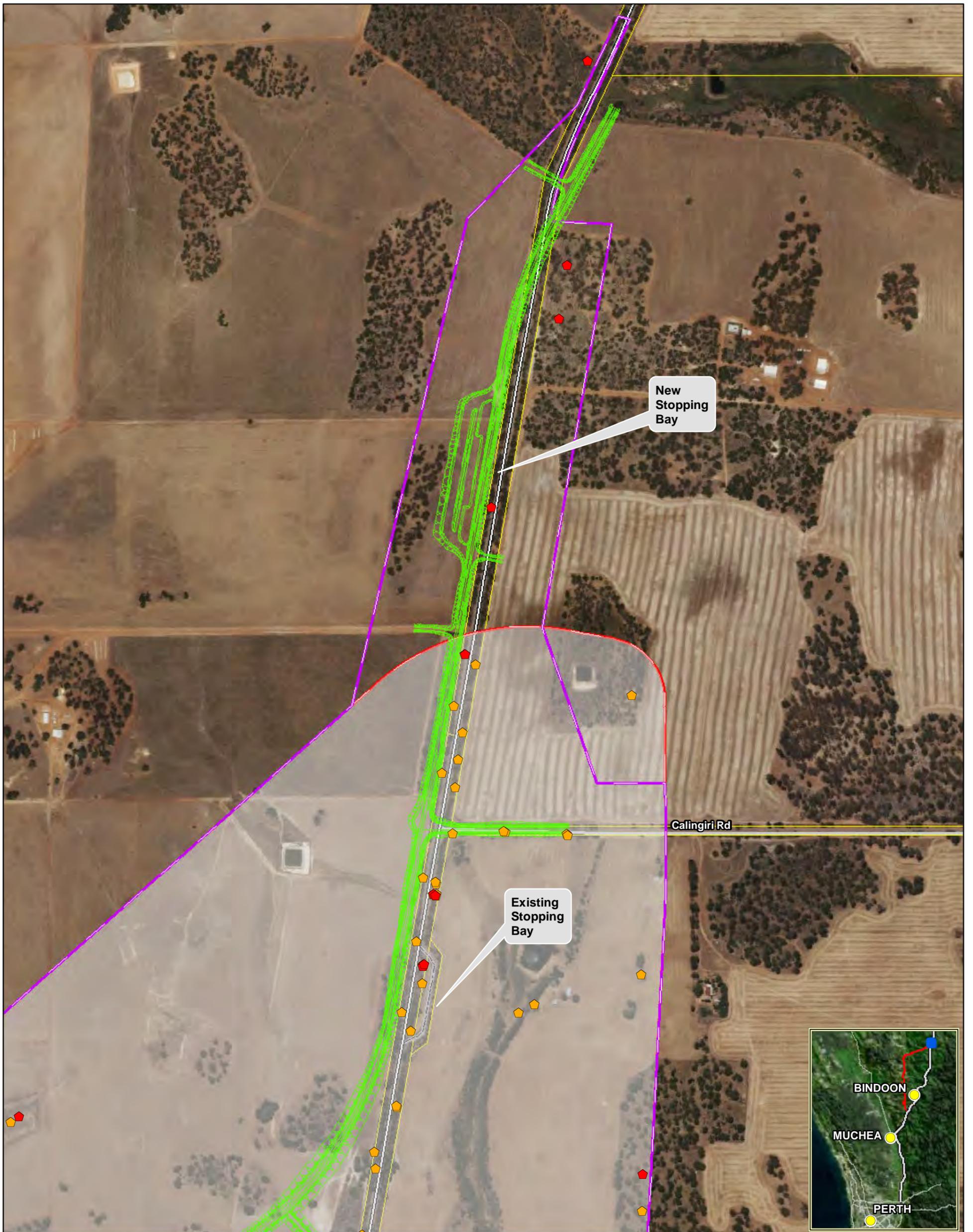
Task No
Bindoon Approval

Drawing Status / Other
Current as of 29/06/2018

Date 29/06/2018	By BG	Chkd LB	Appd TJ
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Figure 8 : Approximate location of wetland crossing – Blue Option (photo taken 13 February 2018)



Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- ◆ CBC Habitat Trees
- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow
- Highway
- Major Road
- Minor Road

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Scale at A3
1:7,500

0 90 180
Metres

Coordinate System: GDA 1994 MGA Zone 50

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Client
Project

Great Northern Highway
Bindoon Bypass

Calingiri Road

Figure: 9 of 13

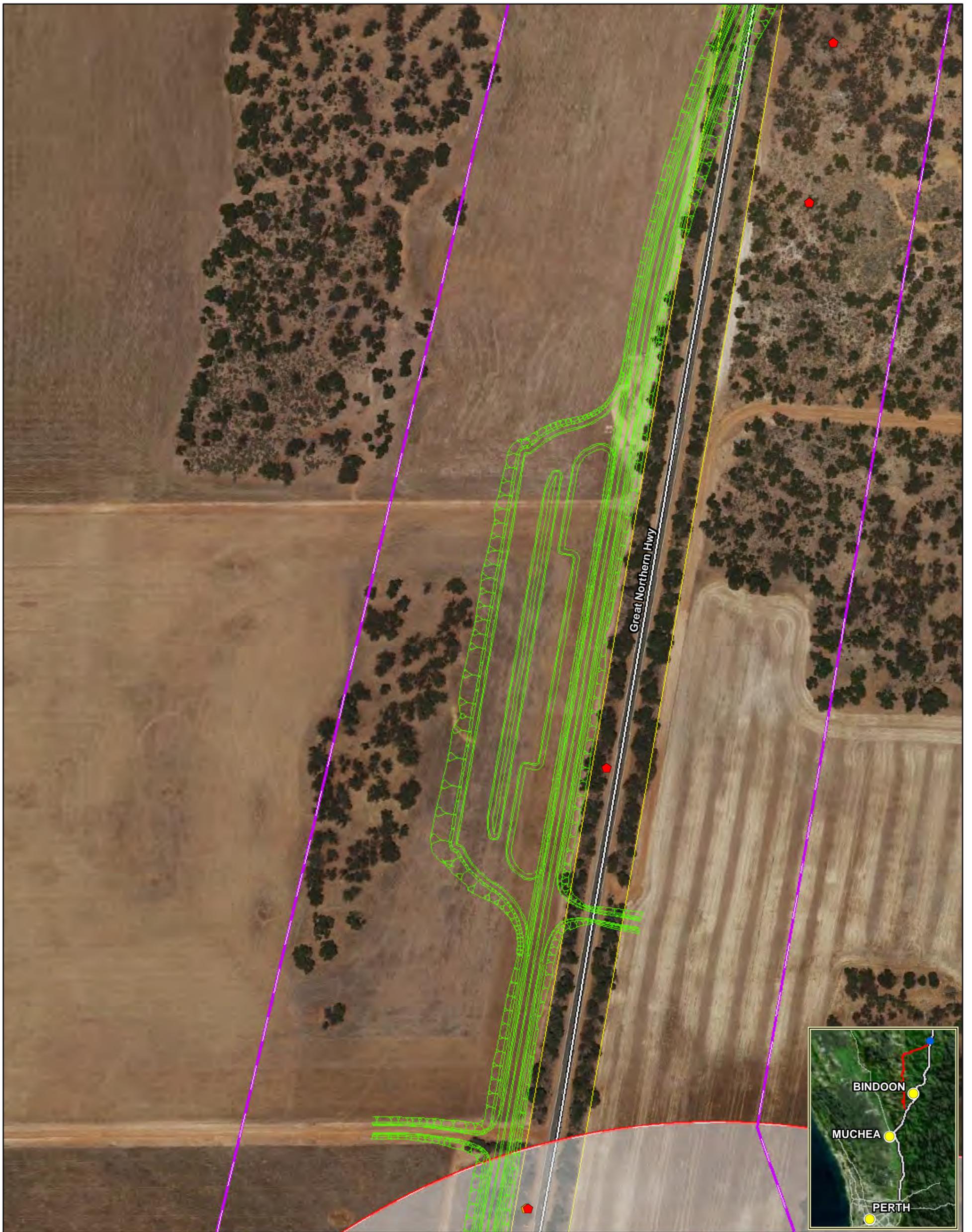
Drawing No: GNH-CN12-E-GD-EA-00105 | Issue: C

Task No: Bindoon Approval | Drawing Status / Other: Current as of 29/06/2018

Date: 29/06/2018	By: BG	Chkd: LB	Appd: TJ
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Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow
- Highway

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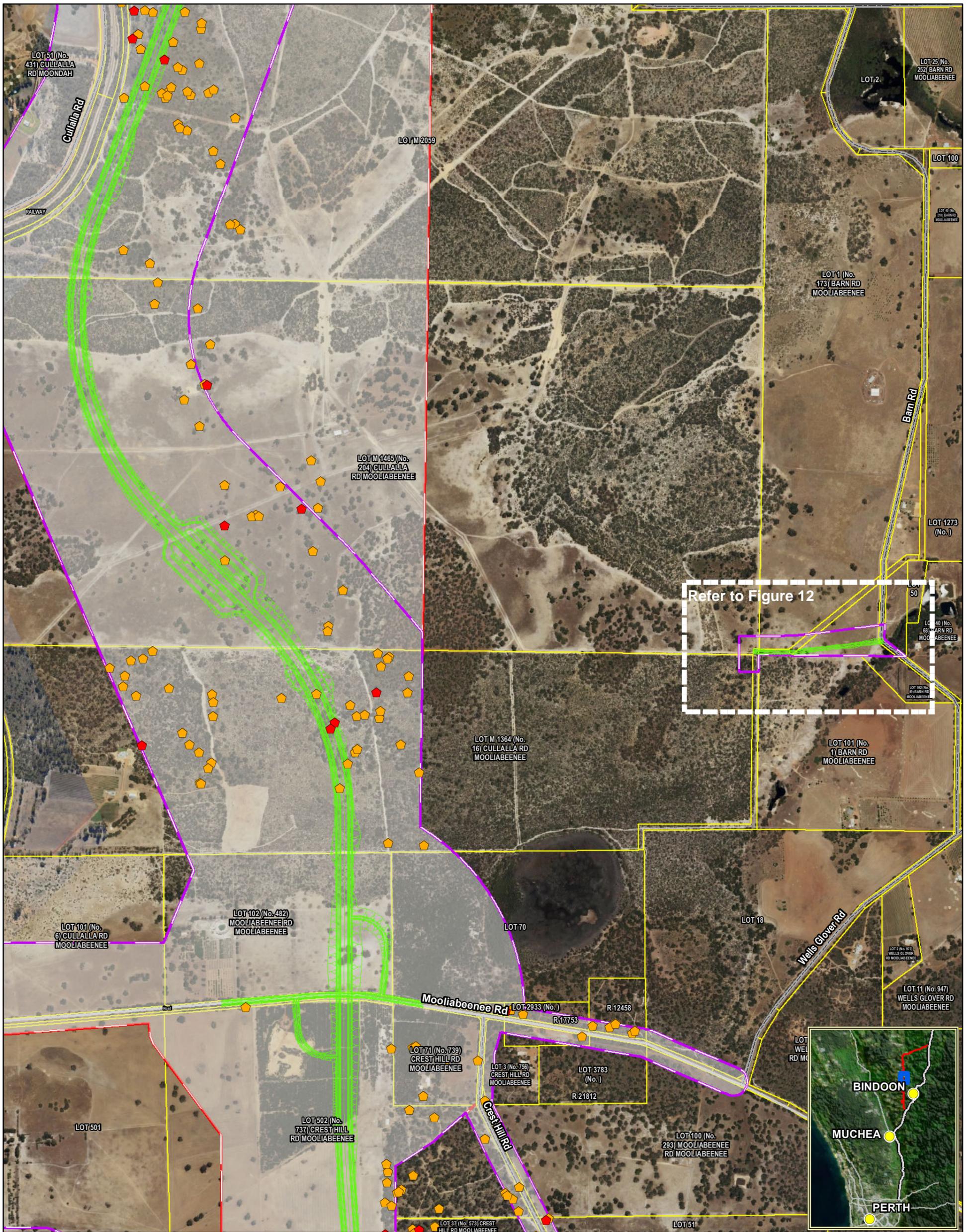
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Main Roads Western Australia Client
Great Northern Highway Bindoon Bypass Project

Truck Stopping Bay

Figure: 10 of 13

Drawing No GNH-CN12-E-GD-EA-00105		Issue C	
Task No Bindoon Approval		Drawing Status / Other Current as of 29/06/2018	
Date 29/06/2018	By BG	Chkd LB	Appd TJ



Legend

- Referred Development Envelope
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- CBC Habitat Trees**
- ◆ Hollow with Evidence of Use
- ◆ Suitable Hollow
- Major Road
- Minor Road

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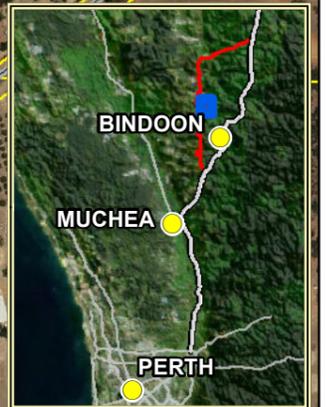
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Great Northern Highway
Bindoon Bypass

Local Access Road for Lots M1465 & M1364 Cullalla Rd Mooliabeene
 Figure: 11 of 13

Drawing No		Issue	
GNH-CN12-E-GD-EA-00105		C	
Task No		Drawing Status / Other	
Bindoon Approval		Current as of 4/07/2018	
Date	By	Chkd	Appd
4/07/2018	BG	LB	TJ

MXD Location: \\jacobs.com\PER\Projects\BIP\Projects\BIP0732\Technical\GIS\ArcMap\Environmental\CN12\Amendment\Figures\GNH-CN12-E-GD-0105-F11.mxd



Legend

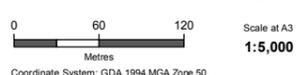
- Revised Development Envelope
- Revised Alignment - Bindoon Bypass
- Cadastral Boundary
- Minor Road



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Client Project
Great Northern Highway Bindoon Bypass

Local Access Road for Lots M1465 and M1364
 Figure: 12 of 13

Drawing No	Issue		
GNH-CN12-E-GD-EA-00105	C		
Task No	Drawing Status / Other		
Bindoon Approval	Current as of 4/07/2018		
Date	By	Chkd	Appd
4/07/2018	BG	LB	TJ



Legend

- Referred Development Envelope
 - Revised Development Envelope
 - Cadastral Boundary
 - Major Road
 - Minor Road
 - Revised Alignment - Bindoon Bypass
 - ◆ Suitable Hollow
- CBC Habitat Trees**



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Great Northern Highway Bindoon Bypass

Local Access Road for Lot 37

Figure: 13 of 13

Drawing No	Issue
GNH-CN12-E-GD-EA-00105	C

Task No	Drawing Status / Other
Bindoon Approval	Current as of 4/07/2018

Date	By	Chkd	Appd
4/07/2018	BG	LB	TJ

